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TREE FRUITS PROVIDE ANNUAL \$10,500,000 INCOME IN GARDEN STATE. . . Page 24

COLOR PHOTO BY DORER

U.S. ARMY 'NIKE' DEFENDERS RING METROPOLITAN JERSEY . . . SEE PAGE 7

THE GARDEN STATE



Apple trees in blossom, one of the signs of spring throughout Jersey. BELOW: Rosy-cheeked Cortlands grown in Morris County.



SPRING BLOSSOMS AND FALL FRUIT

THE PEACH is a tender thing, a symbol of unsullied beauty; a thing of perfect complexion, of a delicateness which invokes solicitous care. Such demands for attention by the downy-cheeked peach make the apple, her sturdy and shining-faced cousin, struggle always for attention—in the market as well as in the pages of the past.

Whoever seeks his living in a New Jersey orchard must love both, however; cherishing the peach despite its tenderness, admiring the apple even though it is the stuff from whence comes such workaday matters as applesauce and applejack. This happy facility to divide one's affection can be fruitful for the Garden State orchardist—to the extent of some 10 million dollars annually (sordid though it might be to mention mere money in the same paragraph with affection).

Long ago the early publicists waxed lyrical about the land between the Hudson and the Delaware. Called this land a veritable Garden of Eden, they

did—a province where toothsome fruit burdened the limbs of sturdy trees almost to the point of breaking. New Jersey is no Garden of Eden today (even the most provincial of us admit that), but still the limbs bend down in the orchards—enough to make the state seventh in all the land in peach production, eleventh in apple harvests.

Fruit trees abound throughout the state, except in Hudson County. If apples and peaches are plucked in Hudson, the census takers have either found no trace or haven't recorded it. Elsewhere, even crowded Essex County has its orchards, and the highlands in Bergen, Passaic, Morris, Sussex and Warren have acres of well-known fruitland.

NEVERTHELESS, whatever reputation New Jersey has for its fruit rests in the rich lands downstate—and mark you well that Garden State apples and peaches do merit respect everywhere. A semicircle swung westward from

**COVER
PHOTO**

Peach blossoms in orchards at Rutgers Agricultural Experiment Station are admired by (from left) Barbara Bailey of Belvidere, Pat Scully, Nutley, and June Fapiano, Union, all of NJC. White is double-flowering white; Burbank is pinkish red and camelliaflora is darker red.



This orchard in Gloucester County accounts for some of Garden State's 1,250,000 peach trees.

The Tender Peach and the Sturdy Apple Are Mainstays of New Jersey's Annual \$10,000,000 Income From Tree Fruits With Climate a Factor in Their Thriving

By John T. Cunningham

Monmouth County down to Cumberland touches New Jersey Orchardland—in the counties of Monmouth, Burlington, Camden, Gloucester, Cumberland and the western part of Atlantic. This is the land of sweet spring blossoms, the land of summer and fall ripened fruit.

Despite the bounties of the state's 33,000 acres of orchards, the widespread fame of New Jersey as a fruit state probably rests most solidly on a half century of scientific study on the Rutgers University campus rather than in the two million apple and peach trees blooming from Sussex to Cape May. From those experiments came an imagination and a vision which brought new outlooks to the entire peach world, even beyond the boundaries of New Jersey.

The work on the Rutgers campus was spawned more or less in desperation a half century ago, with disease and ruin as its ne'er-do-well forebears. To set the stage for those experiments, it is desirable to see that disease and ruin had not always been the lot of

the orchards. It is well even to look back to the days of the New World's "Garden of Eden."

George Scot, a man of many and fancy words, wrote in 1685 of an apple seed planted in Burlington, from which "there sprang a tree that in the fourth year bore such a quantity of apples, as yeilded a barrell of Syder." Some doubted Mr. Scot's reporting, while admiring his sentiment—particularly those with the imagination to visualize "Syder" as something more mature, more exciting, say like "Jersey Lightning."

One Richard Kimball of Morris County earned a niche in history as the supposed originator of "Jersey Lightning" when he imported a 12-gallon copper still from England in 1773 and commenced making applejack. Actually, others had made applejack in New Jersey long before Kimball, but why quibble with the memory of a man who recognized how becoming age can be to a spot of apple juice?

Anyway, "Jersey Lightning" struck

many times in many places—in Essex County, long noted for its great cider output; in Somerset and Hunterdon counties, where cross-state travelers bolted variations of the "Lightning" in wayside inns, and in the old Dutch homesteads of Bergen. The Revolutionary War made many a throat yearn for artificial warmth, as soldiers grew used to daily rations of rum. So, with the excellence of the product combined with a growing taste for it, "Jersey Lightning" whipped up such a storm that by 1834 New Jersey had 388 cider distilleries—about one-third of them in Morris and Hunterdon counties.

APPLES grew everywhere and grew easily. Essex County held 18th century fame for its Harrison and Campfield apples, both apparently originated near Newark and both named for old Newark families. Apple orchards thrived near Morristown, Belvidere, Hackettstown and in many parts of central and south Jersey. Cider and its spirited offshoot provided reasons for being, but New Jersey also had a widespread reputation for its succulent dried apples. And, presumably to keep the doctors away, most people ate an apple a day in season.

Peaches vied for attention, too, even if 19th century men of distinction didn't get quite the same kick out of them that they did from apples. The much-traveled and much-quoted Peter Kalm in 1749 told of "spacious" peach orchards between Trenton and New Brunswick. He marveled that everyone, "even a common peasant," could eat peaches in New Jersey. Yeah, every passerby was at liberty to enter an orchard and eat his fill. Unlike in Europe, where peaches were for the rich, in New Jersey surplus peaches were fed to swine, said Kalm.

Ever wider spread the orchards

Essex County turned out 198,000 barrels of cider in 1810 (and 307,000 gallons of bottled Lightning). In passing, let it be noted that while temperance movements dimmed the Lightning on the Jersey sky, Newark cider still remained a rainbow on the horizon. As late as 1869 Newark cider commanded double the price of any other sold in the West Indies—and every drop of it sweet yet.

CITY folk had developed a taste for fresh fruit by 1825 and for the next 35 years New Jersey had one of its most intriguing and most profitable fruit eras, centered mainly in the bustling riverfront towns on the Raritan River. Much of that Raritan prominence revolved about Sam Whitehead Sr. of Middlesex County.

Sam Whitehead's peach trees bore magnificently and soon Whitehead started shipping by sloop to New York from the port of Washington (now Sayreville). Others emulated Sam and between 1825 and 1850 an immense trade grew up, requiring schooners instead of sloops—then steamers instead of schooners, particularly after railroads began bringing peaches to dockside in the 1840s. As many as five or six steamers daily left Washington in peach season during the 1840s—and on up to 1855 when Sam Whitehead retired, correctly convinced that Middlesex County's future rested on clay rather than peaches.

NEW BRUNSWICK enjoyed peach prosperity at the same time. Each year townfolk eagerly awaited peach time, gathering in season on Sonman's Hill for the "Saturday frolics"—at which they sorted fruit from the great upstate wagons before the peaches were packed aboard steamers. They could take home "speckled" fruit as their pay, an arrangement which

(Continued on Following Page)

This is the tenth in a series of articles on New Jersey's highly diversified agriculture, vigorous and growing despite the constant inroads of industrial and residential development. Next week: Bush fruits, including cranberry, blueberry and grapes.

JERSEY TREE FRUITS

(Continued From Preceding Page)

seemed just peachy to all concerned (and quite economical for the shipper).

Philadelphia Quakers also demanded Jersey peaches, of course, recognizing like the cosmopolitan shoppers of New York that Garden State peaches reached market fresh and succulent. Big orchards sprang up across from Philadelphia. Moorestown gained a widespread reputation for its peach orchards—and wily Moorestown pickers played city against city, often hauling their luscious fruit across state to Amboy and on to New York where their big fleshy peaches brought up to \$4 a basket.

Alas and alackaday, if a local Moorestown historian is not to be discounted for area pride, a Monmouth County farmer bought some Moorestown trees in about 1825. He planted them in his own county, much nearer the New York market, and in base—although undoubtedly unwitting—ingratitude, skinned Moorestown right out of its best buyers.

Maybe so, except that as early as 1675 one Richard Hartshorne had reported Monmouth County to be rich in all kinds of fruit. Besides, William H. Crawford of Crawford's Corner (naturally) by 1848 had a peach reputation that he had not grafted from Moorestown. Crawford by then had developed his Crawford Late and Crawford, Early, for decades the finest peaches in the land. Everybody, but everybody, grew Crawford Early and Crawford Late.

APPLE growers seemed plenty satisfied with the old varieties, many of which had been fully categorized by William Coxe, Esq., of Burlington. Coxe gave a great deal of attention to new varieties in his "A View of the Cultivation of Fruit Trees and the Management of Orchards and Cider"—published in 1817 as America's first comprehensive book of fruit growing.

Mr. Coxe, Esq., citing from his own 2,000 or so fruit trees and his long experience, carefully described the cultivation of such apple varieties as Maiden's Blush, Bellflower and Bullock's Pippin. The latter, the estimable Mr. Coxe, Esq., said with sadness, had come to be "distinguished by the vulgar name of Sheep-nose, from a supposed resemblance to that part of a sheep." He listed with straight face other such varieties as Skunk apple, Sweet and Sour and Varmins Pippin, names unlikely to endear themselves to a 20th century marketing specialist.

New Jersey apple growers had much to do with the development of noted early varieties—Maiden Blush, Bullock's Pippin and Bell Flower originated in Burlington, Tewkesbury Winter Blush in Hunterdon, Cooper's Russet in Gloucester, Round Top and Michael Henry Pippin in Monmouth and Skunk Apple and Sweet and Sour in Middlesex (which may go to prove that Middlesex growers had less imagination in names than skill in breeding). An improved Red Delicious, originated as a "sport" in a Mullica Hill orchard, is still grown widely through-

out the country under the name Starking.

BY Civil War time New Jersey had a reputation as a remarkable fruit state. Despite the fact that railroad transportation increased competition from neighboring states, Jersey peaches and apples dominated Philadelphia and New York market stalls because buyers knew that Jersey fruit had been picked while ripe and marketed while fresh. A New Jersey peach, housewives insisted, never felt hard to the pinch. Agreed, said grocers, though mournfully reflecting that a fully ripe peach became useless all too quickly after pinching.

Slowly and subtly fruit growing underwent great changes between 1860 and 1885. Peach orchards, extensive north of Trenton, began to spread—up the Mercer County side of the Sourland Mountain, down the other side into Hunterdon, up Hunterdon Plateau and on to the Musconetcong River, up the slopes of Warren and Sussex counties, then into adjacent Somerset County. Almost overnight the nation awoke to find Hunterdon County probably the greatest peach region in the world in the 1880s.

The 1890 census showed what Hunterdon folk had suspected for a long time—that Hunterdon had an incredible number of peach trees. New Jersey that year had 4,413,568 trees; Hunterdon County boasted 2,073,332 of those. Neighbor Somerset had another half million trees. Peaches ruled supreme in fruit thought of the day; Hunterdon County alone had almost twice as many peach trees as there were apple trees in the state (1,310,000 apple trees in 1890).

Peach season meant exciting days for old Hunterdon. Buyers from the city came out to haggle over peaches day and night. Pickers swarmed out to help transform peach-laden trees into dollars. Special peach trains rolled out from farm depots to city markets. Peach growers organized to get themselves fair treatment from itinerant commission men and to fight the battle of railroad rates all the way from Flemington, N.J., to Washington, D.C.

THEN an insect raised his ugly head in San Jose, Calif., in the late 1880s and leisurely ate his way across country until he found a highly palatable home in Hunterdon orchards some five years later. Bad years preceded him; the crop of 1890 had been ruined by weather, fantastic overproduction in 1892 and 1893 caused ruinously low prices. But the newcomer from the West, the San Jose scale, finally finished Hunterdon's peach industry in one of the nation's prime agricultural disasters.

By 1899 farmers had chopped a million disease-racked trees from the Hunterdon hillside, by 1909 Hunterdon had only 300,000 left—and now only about 30,000 peach trees flourish in that once-fabulous Peachland, U.S.A. The insect out of San Jose did two things: It shifted the peach indus-



Picking Starrs, early Jersey apple variety, on orchard of Clement B. Lewis near Burlington. The July harvest ushers in a new season.

try from Hunterdon to south Jersey and it thrust the Agricultural Experimental Station at Rutgers into national prominence.

Peaches had been on a slow upgrade in areas like Hammonton and Vineland and throughout Monmouth and Burlington counties, but the San Jose scale hastened their rise. The scale hit south Jersey, but not nearly so disastrously as in Hunterdon—mainly because there weren't so many peach trees and consequently less reason for complete discouragement. Development of new lime-sulphur sprays, particularly the "dry mix" perfected in 1917 by Rutgers Prof. Arthur J. Farley, brought the scale under full control.

Another Rutgers professor, young Maurice A. Blake, arrived in New Brunswick in 1906 to begin a study of peach breeding that earned him national attention. First of all he supervised the planting of experimental orchards at Vineland and High Bridge from 1906 to 1908. The object: to gain some information about peach inheritance, a truly virginal field at the time.

BREEDING and cross-breeding finally started in 1914, under big cheesecloth tents covering entire trees to prevent undesirable cross-pollination by insects—the first time in America such breeding had ever been tried. In many cases it was love at first sight between trees under the cheesecloth and Prof. Blake began to get some progeny quite different from any previously known.

Slowly the search for peaches with a high edible quality went on; at the same time Prof. Blake sought new varieties which would ripen either earlier or later than the traditional Elberta and other varieties of the day. New Jersey desperately needed new varieties of early ripening freestone varieties to compete with the Georgia Elberta peach. A lengthening of the season through such new varieties would spread the picking and marketing over a long period of time—highly

desirable with anything so perishable as a peach.

Possibly the most noted peach born at Rutgers started as a mere pit in 1921, bore its first fruit in 1925 and won the name Golden Jubilee in 1926 in honor of the golden anniversary of the New Jersey State Horticultural Society. Other great contributions came from Rutgers; from 1914 to 1926 a total of 6,188 peach and nectarine trees were obtained from known crosses. Of these 31 peach varieties—plus the first nectarine ever patented in the United States (named the Garden State)—were named and put on the market. Many of these Rutgers peach varieties are vital in New Jersey—including the Jerseyland, the Raritan Rose, Triogem, Newday, Summercrest and Sunhigh (evidence that better names can be found in Middlesex County than those the old apple growers dreamed up).

ALL the fuss, seemingly, was made over the fine-fuzzed peach, but apple growers had settled into a pattern of their own, aided and abetted mainly by new spraying programs. The 20th century evolved a new type of apple grower, one who carefully selected his varieties, who sprayed and fed his trees, who studied his markets, who built storage sheds. In short, a true specialist in marked contrast with the old farmer who kept a small orchard and hoped the worms would leave him enough to make picking worthwhile.

Apple varieties have not been a principle concern of state farm authorities until recently, and most New Jersey commercial apples are varieties developed outside the state (but good, anyway)—such as Delicious, Rome Beauty, McIntosh, Stayman, Cortland, Winesap and Black Twig. Most of these have been popular for a half century or more, proving, therefore, that the apple does have all the dependability of a rosy-cheeked, sturdy farm maiden (the old-fashioned kind, that is).

Last fall, however, Rutgers fruit researchers put a final stamp of ap-



Careful grading and attractive packaging are only two of the methods employed by Jersey apple growers to promote sale of product.

proval on a new apple which bids fair to be every bit as valuable as the famed peach developments. Originally called merely New Jersey No. 1, the new apple was christened Jersey Red on the very afternoon that Hurricane Hazel swept over the state. Some predict Jersey Red will in time replace Rome Beauty, currently the state's most important variety.

THE greatest apple change in the last 40 years had been in the trend away from early apples—the summer varieties of August and September—for which New Jersey once was known principally. At the turn of the century half of all apples were marketed in August or September, now not over 20 per cent are early. Still, the Starr, the Twenty Ounce and the Yellow Transparent are worthwhile early Jersey varieties—and New Jersey ranks third nationally in production of summer apples.

There is no use denying that the apple has had some tough market competition in the last four or five decades—from other fruits, from a falling off in cider production, from a decline in the distilling of applejack. There has been some trend away from eating fresh apples—even though good storage methods make apples available the year around. Even restaurants and hotels seek frozen or canned apples, and that dictum about an apple a day keeping the doctor away no longer seems to have the impact it did in previtamin days. And, at the moment, there are not as many apples salesmen as there were in depression days.

Let it not be inferred, however, that apple production has been pared to the core. A couple of statistics are revealing: In 1910 New Jersey's 1,810,000 apple trees produced 1,406,000 bushels of apples; now, with about 850,000 trees the state's apple growers produce anywhere from 2,250,000 to 2,750,000 bushels annually. That means nearly twice as many apples from about half as many trees.

That's a lot of apples, no matter how you slice them. They stay in abundance because New Jersey apple growers have learned the value of good promotion and good cooperative selling agencies. Sales to big chain stores through the cooperative selling agencies have required farmers to grow a high quality apple, to grade it carefully, to pack it neatly and safely, to package it attractively. With just a bit of a rub on the sweater, a Jersey-grown and Jersey-packed apple is polished enough to erase the frown of any teacher (provided, that is, kids still give apples to teachers).

Peach production, stimulated by the Rutgers breeding program, picked up pace between 1914 and 1925, rising to nearly three million trees in the state in 1920. That has since leveled off at about 1,250,000 trees, but a surprising thing has happened—production has gone up. In 1890 the state's 4,400,000 peach trees produced only 776,000 bushels of peaches; in 1920 the state's 2,820,000 trees yielded only 1,650,000 bushels. Today, New Jersey's 1,250,000 peach trees give between 1,500,000 and 2,000,000 bushels every year.

APPLES and peaches aren't all in New Jersey, as far as fruit goes—there are some pears and plums and sour cherries, but in the aggregate they are of minor importance. Pears, for example, have declined tremendously since 1900 when there were 926,000 pear trees in the state; now there are only about 30,000—with disease presently being the biggest obstacle to a thriving pear industry. Plum and cherry trees have also declined markedly in the last 50 years, although some 19,000 cherry trees and some 10,000 plum trees are still spaced over the state.

Practically speaking, it's the tender peach and the sturdy apple, as far as New Jersey income from tree fruits is concerned. New Jersey's climate is good for both. Apples almost always do well (give or take some deviations because of weather), although 1954



William Schlectweg checks peaches in humidity control room on his Monmouth County farm. State's output is over 1,500,000 bushels.

caused an unprecedented disaster when Hurricane Hazel shook some 750,000 bushels of nice red apples from the trees. A good smart marketing program kept that from being a total loss, fortunately; the state's 1954 apple total reached 2,680,000 bushels—some 300,000 bushels higher than the 10-year average from 1943-52.

Peaches have a delicateness, the same kind which makes the fabled fair human female shiver and shake when cold breezes blow. Yet, strangely enough, New Jersey climate is excellent for peaches because for all their shaking and shivering in cold weather, peach trees need a protracted period of cold in which to lie dormant. Georgia, for example, sometimes loses a crop because it doesn't have enough hours of continued cold during the winter season. New Jersey, on the other hand, scarcely loses a harvest once in 10 years for any reason (some peach areas consider three harvests out of five a good average, by way of contrast).

A TERRIFICALLY cold winter, as in 1934, for example, when almost all peach orchards suffered terribly, or a

late spring frost can ruin a peach season, yet such weather deviations don't come too often in New Jersey. That 1934 winter, with its protracted sub-zero temperatures, is probably the worst on record. Usually the peach, in its infinite wisdom, seldom blossoms until frost danger is over. Then it bursts forth in all its glory—in time for the annual April peach festival in Hammonton, in time to make the gentle slopes of Atlantic, Burlington, Cumberland, Camden, Gloucester and Monmouth counties come alive with the spectacular bloom of the peach.

The apple growers at about the same time watch their trees spring into bloom in Monmouth, Gloucester and Burlington counties (the three leading apple counties) and in lesser extent throughout the state as blossoms also cover orchards on the hills of north Jersey, in promise of an autumn picking. There's something infinitely appealing about a tender, sweet, easily bruised peach—but never, never sell short her cousin with the unfashionable glowing and shiny red cheeks. She's crisp, she's reliable, she's good in the long run—and, she's exciting, too. Look what happened to Adam.